

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD****RESIDUE MANAGEMENT, RIDGE TILL**

(Acre)
Code 329C

DEFINITION

Managing the amount, orientation, and distribution of crop and other plant residue on the soil surface year-round, while growing crops on pre-formed ridges alternated with furrows protected by crop residue.

PURPOSES

This practice may be applied as part of a conservation system to support one or more of the following:

- Reduce sheet and rill erosion.
- Reduce wind erosion and/or improve air quality.
- Modify cool wet site conditions.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all cropland and other land where crops are grown.

This practice includes tillage methods commonly referred to as ridge till or ridge planting. It does not apply to no till on ridges, or bedding or listing operations which bury crop residues.

CRITERIA

General Criteria Applicable To All Purposes
Named Above

Following crop harvest and any secondary residue removal, residues shall be maintained until planting with no additional disturbance except for normal weathering.

Partial removal of residue by means such as baling or grazing shall be limited to retain the amount of residue needed.

Loose residues to be retained on the field shall be uniformly distributed on the soil surface.

Cultivation and planting equipment designed to operate on ridges (such as cultivators equipped with ridging attachments, and planters equipped with ridge planting attachments like row cleaning devices and guidance systems) shall be used.

Calculations of residue amounts shall account for the effects of other practices in the conservation management system.

Additional Criteria To Reduce Sheet And Rill Erosion

The amount and placement of residue needed, and the orientation of ridges in relation to the contour, shall be determined using the Revised Universal Soil Loss Equation (RUSLE) in the Field Office Computing System (FOCS) or Florida Agronomy Field Handbook (FAFH).

Planting and fertilizer placement shall disturb no more than one third of the row width. Soil and residue removed from the top of the ridge shall be moved into the furrow between the ridges.

After planting, the top of the ridge shall be maintained at least 3 inches higher than the furrow between the ridges. The ridge shall be shaped to prevent erosion along the row by directing runoff to the protected furrow area.

Additional Criteria To Reduce Wind Erosion

The amount and orientation of residue needed to reduce erosion within the soil loss tolerance (T), crop tolerance (cT) and/or air quality shall be determined using wind erosion prediction technology such as Wind Erosion Equation (WEQ) in FOCS and FAFH.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

Additional Criteria To Modify Cool Wet Site Conditions

Ridge height prior to planting shall not be less than 6 inches. After planting, the top of the ridge shall be maintained at least 3 inches higher than the furrow between the ridges.

CONSIDERATIONS

Excess removal of plant residue by such means as burning, baling, grazing or cutting silage often produces negative impacts on the natural resources. These activities should not be performed without full evaluation of the impacts on soil, water, animal, plants, and air.

Ridge till may be practiced continuously throughout some crop sequences, or may be managed as part of a residue management system which includes other tillage and planting methods such as mulch till or no till. In mixed systems, ridges must be periodically re-established.

Use of ridge till and/or other tillage systems that leave residue on the surface will enhance air quality.

Selection of acceptable tillage methods for specific site conditions may be aided by using RUSLE.

Production of adequate amounts of crop residue necessary for the proper functioning of this practice can be enhanced by selection of high residue producing crops and crop varieties in the rotation, use of cover crops, and adjustment of plant populations and row spacings.

Determining the amount of residue needed to improve soil condition may be accomplished by using the soil condition index procedure in the FAFH.

By providing a choice of weed control methods, this practice can reduce herbicide requirements when used in a conservation management system.

Soil tilth may be improved through continuous ridge planting which allows organic material to accumulate in the surface horizon. Reconstruction of ridges in the same row area year after year will maximize organic matter buildup and biological activity in the row.

Available moisture will increase from the increased organic matter and greater infiltration.

Water quality may be improved by reducing runoff from low intensity rainfall.

The value of residues for wildlife habitat can be enhanced by leaving rows of unharvested crop standing at intervals across the field.

PLANS AND SPECIFICATIONS

Specifications for establishment and operation of this practice shall be prepared for each field or treatment unit according to the Criteria, Considerations, and Operation and Maintenance described in this standard. Specifications shall be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation. Example procedures and records are found in the FAFH.

OPERATION AND MAINTENANCE

Ridge height shall be retained in place throughout the harvest and winter seasons by controlling equipment and/or livestock traffic.

After planting, residues shall be maintained in the furrows until the ridges are rebuilt by cultivation. During the last row cultivation ridges shall be rebuilt to their original height and shape as required for the intended purpose.

REFERENCES

- Field Office Computing System
- Wind Erosion Equation
- Revised Universal Soil Loss Equation
- National Biology Manual
- Florida Agronomy Field Handbook